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ABSTRACT

The stated purpose of this study was to measure the effects of a public school field experience upon the achievement, educational philosophy, and attitudes of teacher trainees enrolled in an introductory educational psychology course. The study centers on a new approach used in organizing and teaching introductory educational psychology which required the student's participation in a directed field experience that was to be coordinated with the campus class. For purposes of comparative research the students enrolling in the course were randomly assigned to (a) a lecture-recitation section or to (b) a lecture-recitation-field experience-team taught section. This paper describes the measuring instruments used in the study and the course itself. Results of the data from each group by itself and in comparison with each other indicated that adding a field experience in the public schools to a university class did not appreciably affect achievement but did, at times, affect student attitudes and philosophical values. Tables are included at the end of the paper. (JA)

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THE EFFECT OF A PUBLIC SCHOOL FIELD EXPERIENCE UPON STUDENT ACHIEVEMENT, EDUCATIONAL PHILOSOPHY, AND ATTITUDES IN AN INTRODUCTORY EDUCATIONAL PSYCHOLOGY COURSE

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THE EFFECT OF A PUBLIC SCHOOL FIELD EXPERIENCE UPON STUDENT ACHIEVEMENT, EDUCATIONAL PHILOSOPHY, AND ATTITUDES IN AN INTRODUCTORY EDUCATIONAL PSYCHOLOGY COURSE

The purpose of this study was to measure the effects of a public school field experience upon the achievement, educational philosophy, and attitudes of teacher trainees enrolled in an introductory educational psychology course.

For many years the literature has reported a concern among students and faculty in educational psychology courses for the relevance, practicality, and usefulness of what was being learned. Blair (1949) has written of the need to relate the content of educational psychology courses to on-the-job behavior of teachers. Feldhusen (1970) reported a survey of prospective teachers at the Universities of Wisconsin, Illinois, and Purdue on their views of an ideal educational psychology course. Students at all three schools specified "relevance or practical applications" as a critical aspect. Also reflected in the responses in several categories of the survey was a plea for discussion, participation, and involvement. Trowbridge (1970) discussed a small group approach to teaching a large undergraduate class in educational psychology at Drake University which was based on the premise that knowledge acquired largely on one's own would be more relevant, better understood, and better applied to situations in life than material more traditionally presented. Treffinger and Davis (1972) described an innovation in instruction in educational psychology at Purdue University which emphasized action and participation. They concluded that

because of changes in the nature of classes and the diversity of student needs and interests, there has to be a greater emphasis on practicality and applicability. Oliver (1972) discussed the results of verbal learning studies which typically demonstrated the importance of an active learner who was involved in the learning process.

In response to the need for greater relevance and perceived usefulness in the content of educational psychology courses, a new approach for organizing and teaching introductory educational psychology was designed and put into operation beginning fall semester, 1971-72. This new approach required the student's participation in a directed field experience which was to be coordinated with the campus class. It was hypothesized that joining a field experience to the classroom lecture would promote the student's discovery of relevance and usefulness, thereby enhancing his academic achievement, his attitudes toward the subject, and the development of his educational philosophy. It was also projected as a side benefit that this earlier exposure to an actual teaching situation would allow education majors to evaluate their choice of teaching as a vocation and faculty to have more feedback on which to counsel and guide students in their professional growth.

For purposes of comparative research, the students enrolling in educational psychology during the 1971-72 school year were randomly assigned to (A) a lecture-recitation section or to (B) a lecture-recitation-field experience-team taught section. Approach A (Control Group) included lectures, films, demonstrations, outside speakers, and discussions. Approach B (Experimental Group) provided these same experiences but also assigned each student to a public school classroom related to the grade

and subject which he was preparing to teach. The investigation was intended to assess comparative differences in achievement, educational philosophy, and attitude between the two groups of students.

METHODS AND COURSE DESCRIPTION

The Measuring Instruments

Achievement in the course was measured by the total points received on a specially prepared 100-item multiple-choice examination based on the standardized test items accompanying the Biehler (1970) text PSYCHOLOGY APPLIED TO TEACHING.

Educational Philosophy was measured on Colvin Ross's (1970) eighty question inventory called EDUCATIONAL PHILOSOPHICAL INVENTORY (REPI). Ross feels that by asking teachers to respond to a definitive set of statements concerning reality, knowledge, and values, a measure of the "microscopic set of beliefs" that directs their day to day teaching activities can be obtained. Validity and reliability data are presented in the manual. (See Footnotes 1 and 2)

Attitudes were assessed by means of a scaled-response instrument specially developed for this study including four open-ended questions and an unstructured, invited-comment item. Attitudes toward the instructional procedures, the organization of the course, the content and reading materials, and toward future actions regarding educational psychology were evaluated in this questionnaire.

The Subjects

During the 1971-72 school year, the entire enrollment of 439 students in undergraduate courses in educational psychology was used. On a random

basis, 75 elementary, 75 secondary, and 3 non-teaching students were assigned to the lecture-recitation-field experience-team taught sections. All remaining students were enrolled in the lecture-recitation sections. Sixty-five percent (286 students) were enrolled in Approach A while 35 percent (153 students) were enrolled in Approach B. The reason for the smaller experimental group was the great difficulty involved in placing the students in an observation-participation post in the public schools and the additional faculty required for the team-taught recitation sections. Table One describes the characteristics of the experimental and control groups. There were no significant differences between the two groups in age, sex, mean ACT composite scores, experience in teaching, or year in school.

INSERT TABLE ONE

Description of the Course

The development of a new approach to the teaching of educational psychology was aimed at motivating students to use a field experience in a public school setting to discover the relevance and practicality of the content being learned in their educational psychology class on campus. There were three features unique to the experimental approach which were designed to facilitate this discovery:

(1) A four-hour, weekly experience actively participating in an elementary or secondary classroom similar to the one in which they were preparing to teach.

(2) A one-hour, weekly small group recitation when twenty-five or less students met with a faculty team to talk about how their

practical public school experiences related to what was being discussed more theoretically in lectures and textbooks. The team consisted of one graduate teaching assistant from the psychology department and one Ph. D. faculty member from the Center for Teaching and Learning.

(3) A one-hour appointment with the instructor or one of the team members from the Center faculty to discuss any aspect of the course, future plans, selection of teaching as a profession, field experiences, outside readings, or whatever other positive or negative problems were pertinent.

The recitation sections for the Control Group were small groups of twenty-five or less led by the same graduate teaching assistants in which materials were discussed relating to the text, outside reading, and/or the exams. In all other aspects the courses were the same: two weekly meetings with the instructor for lectures, films, demonstrations, and discussions; a structured syllabus with definitely assigned reading materials; and a list of voluntary, out-of-class activities in which they could become involved such as research, article abstracting, paper writing, class presentations, etc.

PUBLIC SCHOOL FIELD EXPERIENCE. Every student in the experimental group was expected to devote a minimum of four hours per week in a direct teaching situation. On the first day of class, each student completed a form indicating his time schedule, whether he needed transportation, and his choice of grade level and content area. Within a week, assignments to schools in the surrounding area were completed.

Public school teachers who had agreed to take field experience people into their classrooms had received an orientation explaining the goals and purposes of the school participation. They had also been sent copies of the same materials that the students were presented on the first day of class. Each student received a packet containing thirteen contracts, one for each week of the semester excepting holiday weeks. Each contract was coordinated with the lectures, films, reading assignments, and examinations on the campus. The contract offered the student seven or eight options for observing or participating in his public school classroom, depending on the situation which he found on the day that he attended. Each contract had an open-ended assignment which allowed the student to write his own contract relating to the general area of his reading for that week if none of the options given were appropriate. The student was required to read his chapters, attend two lectures, and understand his contract well before he presented himself at his field post. Hopefully, he was thus prepared to retain his spontaneity in the situation, cooperate with the master teacher without asking to impose any additional structure on the daily lesson plan, and yet be free to look for and be sensitive to those areas of directed observation.

During the first week, the students were given an intensive orientation regarding their professional responsibility as a participant in a public school classroom including confidentiality, the reporting of no teacher or student names in their written contracts, courtesies to the cooperating principals and teachers, and appropriate dress code.

The contract options ranged from assignments asking students to assume the full teaching role on a one-to-one, small group, or whole class basis to observing quietly from the back of the room. The personalities of the master teachers, the differences in curriculum, and the uniqueness of each school day demanded this range. Each contract was due within the week of observation. It was read by the Graduate Teaching Assistant who graded, commented on, and returned it by the next class meeting. The Assistant used the contracts as the basis for his contribution to the team-taught recitation section. The student used the contract and his readings as the basis for his participating during the recitation hour.

THE RECITATION SECTION. Each student was asked from the experimental section to attend a one-hour, weekly recitation meeting with a Graduate Teaching Assistant from the psychology department and an experienced teacher from the education faculty to integrate their practical observations with their academic learning. The assigned faculty roles were not the typical teacher roles. Their responsibility was to get the group discussing effectively their experiences in the classrooms and hopefully discovering for themselves the relevance of the course material.

The recitation section for the control group was taught only by a Graduate Teaching Assistant from the psychology department. The small group discussion was used to humanize the course, remove the onus of the big lecture section, allowing students to question and discuss the text, the lecture, and the examinations in a setting where they felt more

confident to speak up.

LECTURES, FILMS, DEMONSTRATIONS, AND DISCUSSIONS. On Monday and Wednesday the instructor met with the control group and on Tuesday and Thursday she met with the experimental group. The same lectures, films, demonstrations, discussions, and outside speakers were given to each large group. The material presented related to the assigned reading, emphasizing the more complex portions, up-dating the research presented in the text, and/or relating educational psychology to current affairs.

THE SYLLABUS. A specific course outline, with assignments of certain subject material to definite time periods, was prepared and distributed as the course started. A specific text was assigned with required reading in any one of five additional books. A reading list of over a hundred paperbacks, controversial books, best sellers, classics, and/or lighter reading selections was included from which they were urged to read for interest or extra credit points. A time period was set aside on the schedule for meeting in small groups of eight to ten for the purpose of discussing their outside reading. The only difference between the syllabi for the two groups was that the experimental group's schedule discussed the contracts and included them in the assignments.

The Syllabus also included a "point system" outlining the minimum number of points that would be required for each letter grade.

OUT-OF-CLASS ACTIVITIES. When the point system was presented to the students, it was explained to them that <u>total</u> points would be used in determining their grades, not a specific number of points in any one area such as examinations. In other words, the student who performed

less well on tests could build up his points by doing additional reading, participating in research, making presentations in recitation, etc. The out-of-class activities sheet suggested a list of projects and achievements which were eligible for points. These activities were pursued independently and on their own initiative. However, projects were graded, reacted to, and returned to the student. Students could also consult with any member of the teaching team at any time in regard to selecting, planning, or carrying out one of these extra credit activities. There was a maximum number of points that could be earned in this manner. A student could not fail every examination and still pass the course. The point system required at least passing performance on the tests.

The students in the experimental group earned most of their extra credit points by completing contracts in their field experience assignments. The students in the control group earned most of their points through outside reading, research participation and self-initiated projects.

THE INTERVIEW. The experimental students were asked to make a one-hour appointment with a member of the faculty team any time during the semester. It was during this hour that the student was encouraged to evaluate his experience in the public schools in relation to his choice of teaching as a profession, grade level of students with whom he'd chosen to work, and content area he's chosen to teach. The hour was not pre-structured, however, and the student was free to use it to discuss the area of his choice.

THE EVALUATION SYSTEM. Each student was encouraged from the first day of class to set his own goals within the stated purposes of the course

and the limitations of the subject matter. Using the class syllabus as a guide, the students could select their own extra reading assignments, their own supplementary textbook, their own out-of-class activities. Indeed, the student could even select the grade for which he wished to work, and select those activities which would earn that grade.

There were five unit examinations plus one final exam. The student was allowed to drop one examination, either his lowest score or a test missed because of illness or choice. These examinations were fifty question, multiple-choice tests. They were machine scored and available for return on the same day they were taken. Every student was allowed to carry away his testbooklet from the examination hour. Beside each question were the text pages or the lecture references where the answer had been discussed. A key was also handed to each student as he left the room so that he could have immediate feedback on the correct responses.

In addition, points were available for attending the small group discussion meetings over their outside reading assignments, for making an appointment with the team faculty to evaluate their experiences, or for completing any of the out-of-class activities. The experimental students were allowed ten points for every field experience contract completed well, eight points for a contract corrected and resubmitted, or four points for a minimum contract not rewritten.

The Graduate Teaching Assistants had the record keeping responsibility. An accurate, up-to-date count was immediately available on every student so that he or any faculty team member could see his progress. Any student falling behind was counseled by the Teaching Assistants.

The student submitted an evaluation sheet at the end of the semester in which he reported on all his activities during the semester and made comments on the kind of experience he felt he had had. The final grade was made on the basis of his total points. The grades were posted several days before the final reporting day so that any student who disagreed with his recommended grade could come in to see the instructor.

PROCEDURES

At the beginning and end of each class in educational psychology during the 1971-72 academic year, every student completed an examination over the content area and an Educational Philosophical Inventory. The pre and post tests were identical in both instances. Toward the end of the semester an attitude inventory was administered to each student. In the interim, the experimental and control groups were taught as described above.

The pre and post test data from Groups A and B on the REPI and the content examination were submitted to analysis of variance and covariance. The t-test was used to assess differences between the means on the pre and post REPI scores within each group. Chi-square analysis was used to analyze the data from the attitude inventory where an alpha level of .05 was accepted.

RESULTS AND DISCUSSION

Tables Two, Three, Four, and Five present the means and summaries of the analyses of variance for each of the scales on the REPI. Figure One diagrams the results of this analysis. As can be seen from the Tables and the Figure a significant comparative movement took place on the Idealism and Pragmatism scales. Groups A and B were not significantly

different on their initial positions on the Idealism scale and both groups were within half a point of scoring at the standardized mean which Ross had established with his norming population. At the completion of the course, however, even though both groups had moved significantly from pre to post positions, the experimental group had moved significantly farther than the control group. (See Table Two) Both groups had moved in the direction of agreeing with more Idealistic tenets.[1,2]

Groups A and B were not significantly different in their initial position on the Pragmatism scale and both groups were within three points of scoring at the mean. At the completion of the course, however, even though both groups had moved significantly from pre to post positions, the control group had moved significantly farther than the experimental group. (See Table Four) Both groups had moved in the direction of greater agreement with Pragmatic tenets.[1]

Tables Six and Seven present t-tests between pre and post means of the scales on the REPI within each group. As can be seen from these tables, both Groups A and B moved significantly from their pre to post positions over the semester on every scale of the REPI except Realism. The pre and post positions of Groups A and B have been diagramed on Figure Two beside the instructor's profile. As can be seen from the tables and the figure, the largest movement made by the students was in the direction of the instructor's peak.

Thus in summary both experimental and control students showed no change on the Realism scale but significant changes on the Idealism, Pragmatism, and Existentialism Scales. Further, the experimental students

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changed significantly more toward Idealism than the controls and significantly less toward Pragmatism than the controls. The rationale of the movement on the REPI was not immediately self-evident. Why did both groups become more idealistic, or to paraphrase Ross, more authoritarian over the semester and the experimentals even significantly more so. The textbook used was decidedly humanistic and the instructor's profile was below the mean on Idealism. Yet modeling might still suggest an explanation for the experimental students who might have become more authoritarian because they were absorbing the attitudes of the public school teachers to whom they were exposed more hours each week than to their college instructor. Part of the explanation might also lie in the research on the Minnesota Teacher Attitude Inventory (Cook, 1951) which scales attitudes on a permissive democratic to authoritarian continuum. On this scale teacher trainees score closer to the democratic end during their college years and closer to the authoritarian end as their years of teaching experience increase. The Idealism Scale on the REPI could be recording a similar phenomena. As the experimental students became involved in the actual on-the-job situation with real, live pupils, their attitudes changed in the direction of their perceptions of what would really work in the classroom.

The significant movement on the Pragmatism Scale by both groups was more understandable since the trend of many visibly prominent educators and many educational psychology textbooks today reflects this philosophy. But why should the Control Group score significantly higher than the Experimental Group? Perhaps both groups were attracted by the theory of pragmatic methods for the classroom, but the Experimental Group were tempered by a practical experience where the results had to receive as much consideration as the methods. In other words, the Experimentals by scoring less movement than the Controls may

have been expressing some reservations regarding the practicality of open, democratic classroom procedures. The theory of Pragmatism may have been more readily absorbed by the Control students than by the Experimentals who were trying to resolve their classroom experiences with the usefulness of the theory.

The largest pre to post change made by either group on the REPI was on the Existential Scale where both groups became significantly more oriented in that direction. Two possible interpretations could be: (1) Students changed in the direction of the times. Their acquaintance with the literature and their exposure to the field simply facilitated this identification. (2) Or students moved in the direction of the university teacher's orientation, suggesting the potential impact an instructor can have on his class.

Table Eight presents the same means and analysis of variance summary for achievement. There were no significant differences on the pre and post test achievement scores between Groups A and B. This finding agrees with the results found by McKeachie (1969) and Oliver (1972). McKeachie concluded after a review of thirty studies that different teaching methods seemed not to affect achievement but did sometimes influence attitudes. Oliver concurred with this conclusion in an experiment at the University of Maryland.

On the chi-square analysis of the attitude data, six of the fourteen questions produced significant differences at the .05 level or less. These six items are presented in Table Nine. In every instance the Experimental Group reported more positive responses than the Control Group. Experimental group members indicated significantly more often an intention to take another course in educational psychology, a higher degree of interest in additional course work, an intention to repeat the class if given an option, greater profit from the textbook, more relevance and practicality from the recitation section, and more

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conviction that the tests had been fair. There were no significant differences between Groups A and B regarding finding educational psychology interesting, ranking educational psychology with other classes, rating the lecture presentations, cutting the class, using the Biehler Study Guide, finding the outside reading interesting, or describing the point system as fair. The Experimental Group were required to spend the additional three to four hours per week on class related experiences. This greater commitment of time may have influenced attitudes in either direction.

Parenthetically, it was learned during the interviews with the Experimental students that eleven of the 153 had decided to withdraw from the teacher preparation program as a result of their public school experience. There were no hard data from the Control Group with which to compare this, but at least for those eleven students, the field experience had helped them to assess at an earlier point in their program their choice of education as a profession. More formalized methods are planned for the future to obtain feedback from the Master Teachers and Principals to be used in counseling these beginning teacher trainees.

The results of this experiment were judged satisfactory enough to offer all current educational psychology courses on the lecture-recitation-field experience-team taught approach.

CONCLUSIONS

Joining a field experience in the public schools to a university class did not appreciably affect achievement but did, at times, affect student attitudes and philosophical values. John Dewey says in his book EXPERIENCE AND EDUCATION (1963, p. 27):

> It is not enough to insist upon the necessity of experience, nor even of activity in experience. Everything depends upon the quality of the

> experience which is had. The quality of any experience has two aspects. There is an immediate aspect of agreeableness or disagreeableness, and there is its influence upon later experiences. The first is obvious and easy to judge. The effect of an experiment is not borne on its face. It sets a problem to the educator. It is his business to arrange for the kind of experiences which, while they do not repel the student, but rather engage his activities are, nevertheless, more than immediately enjoyable since they promote having desirable future experiences.

So it is hoped that follow-up research can be conducted with these experimental students to see if future behavior has been favorably promoted by this field experience.

Assuming that the development of favorable student attitudes toward educational psychology, and that the movement of students toward more democratic, less authoritarian philosophies are desirable goals, this study would strongly recommend the joining of a coordinated field experience to the introductory class in educational psychology.

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FOOTNOTES

[1] The inventory is designed to measure philosophical perspectives toward four systems: idealism, realism, pragmatism, and existentialism. In his manual, Ross defines the idealist as basically authoritarian in personality.

> "... He views the world around him, human, nature, and values as absolute and immutable. He accepts the super-natural. He cannot compromise his ideals. He views others as needing to be told. He sees himself as a person to be imitated."
>
> "The Realist is also authoritarian. He accpts the laws of nature. He is objective. He sees others as needing to be motivated by him. He is a mental disciplinarian.
>
> "A Pragmatist is democratic. He sees a dynamic world. He is flexible. He sees others subjectively as self-motivating, self-disciplining, and dynamically creative. He sees himself as an advisor, guider, a consultant to others."
>
> "An Existentialist sees life as a series of confrontations with choice, freedom, love, death, etc. He sees the universe to be without meaning until man brings meaning to it. He sees others as creatures of feeling. He believes man is

born free; he makes himself. He is a catalyst who provides opportunities to bring out the individual uniqueness of man in an environment of freedom."

[2]Ross's scoring procedure places the mean at zero and the range from minus to plus forty. To avoid the use of minus numbers with the IBM computer a constant of 40 was added to each score, changing the mean to 40 and the range from zero to eighty.

TABLE ONE

DESCRIPTION OF EXPERIMENTAL AND CONTROL GROUPS

CATEGORY	GROUP A CONTROLS N = 286	GROUP B EXPERIMENTALS N = 153	TOTAL N = 439
SEX: Male	116	46	162
Female	170	107	277
MAJOR: Elementary	81	75	156
Secondary	170	75	245
Non-Teaching	35	3	38
CLASS: Freshman	2	0	2
Sophomore	43	56	99
Junior	147	69	216
Senior	90	25	115
Other	4	3	7
TEACHING EXPERIENCE: Yes	25	3	28
No	261	150	411
AGE: 18 - 21 years old	239	133	372
Over 21 years old	47	20	67
MEAN ACT COMPOSITE SCORE	22.5523	22.6565	

TABLE TWO

SUMMARY TABLE OF MEANS, ANALYSIS OF VARIANCE,

AND ANALYSIS OF CO-VARIANCE BY GROUP FOR REPI IDEALISM (N=439)

	PRE-TEST	POST-TEST	ADJUSTED MEANS
CONTROL GROUP A (N=286)	40.395	42.018	41.977
EXPERIMENTAL GROUP B (N=153)	39.477	43.889	43.928
$SS_{BETWEEN}$	83.938	349.063	370.387
SS_{WITHIN}	27612.750	28578.250	28643.320
SS_{TOTAL}	27696.690	28927.310	28833.710
F	1.328	5.338*	5.674*

*$p < .025$, for an $F=5.02$

TABLE THREE

SUMMARY TABLE OF MEANS, ANALYSIS OF VARIANCE,

AND ANALYSIS OF CO-VARIANCE BY GROUP FOR REPI REALISM (N=439)

GROUP	PRE-TEST	POST-TEST	ADJUSTED MEANS
CONTROL GROUP A (N=286)	40.549	41.192	41.177
EXPERIMENTAL GROUP B (N=153)	40.209	40.673	40.701
$SS_{BETWEEN}$	11.563	26.813	22.574
SS_{WITHIN}	25654.310	32156.250	31751.980
SS_{TOTAL}	25665.880	32183.060	31774.550
F	0.197	0.364	0.310

$p = < 1.0$
NOT SIGNIFICANT

TABLE FOUR

SUMMARY TABLE OF MEANS, ANALYSIS OF VARIANCE, AND

ANALYSIS OF CO-VARIANCE BY GROUP FOR REPI PRAGMATISM (N=439)

GROUP	PRE-TEST	POST-TEST	ADJUSTED MEANS
CONTROL GROUP A (N=286)	43.147	49.322	49.258
EXPERIMENTAL GROUP B (N=153)	41.039	47.497	47.615
$SS_{BETWEEN}$	442.813	331.938	267.102
SS_{WITHIN}	58043.750	21660.940	21229.750
SS_{TOTAL}	58486.560	21992.880	21496.860
F	3.334	6.697*	5.486*

*$p < .025$, for an $F = 5.02$

TABLE FIVE

SUMMARY TABLE OF MEANS, ANALYSIS OF VARIANCE, AND

ANALYSIS OF CO-VARIANCE BY GROUP FOR REPI EXISTENTIALISM (N=439)

GROUP	PRE-TEST	POST-TEST	ADJUSTED MEANS
CONTROL GROUP A (N=286)	43.332	50.227	50.173
EXPERIMENTAL GROUP B (N=153)	41.582	50.685	50.187
$SS_{BETWEEN}$	305.250	2.000	0.039
SS_{WITHIN}	57560.940	27343.000	26882.920
SS_{TOTAL}	57866.190	27345.000	26882.960
F	2.317	0.032	0.006

*p = < 1.0

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TABLE SIX

SUMMARY TABLE OF MEANS, ANALYSIS OF VARIANCE, AND

ANALYSIS OF CO-VARIANCE BY GROUP FOR EXAMINATION ACHIEVEMENT (N=439)

	PRE-TEST	POST-TEST	ADJUSTED MEANS
CONTROL GROUP A (N=286)	45.633	76.863	76.837
EXPERIMENTAL GROUP B (N=286)	45.408	75.895	75.944
$SS_{BETWEEN}$	4.688	93.000	79.348
SS_{WITHIN}	59303.560	45345.000	38580.470
SS_{TOTAL}	59308.250	45438.000	38659.820
F	0.035	0.894	0.895

*p = < 1.0

TABLE SEVEN

SUMMARY OF MEANS AND STANDARD DEVIATIONS

ON REPI SCALES FOR EXPERIMENTAL GROUP (N=153)

SCALE	PRE-TEST MEANS	S D	POST-TEST MEANS	S D	t
IDEALISM	39.477	8.038	43.880	7.958	4.685
REALISM	40.209	7.360	40.673	8.775	0.500
PRAGMATISM	41.039	11.653	47.497	7.586	6.104
EXISTENTIALISM	41.582	12.119	50.085	8.362	7.191

df = 437, $p < .001$ for a t = 3.291

TABLE EIGHT

SUMMARY OF MEANS AND STANDARD DEVIATIONS

ON REPI SCALES FOR CONTROL GROUP (N=286)

SCALE	PRE-TEST MEANS	S D	POST-TEST MEANS	S D	t
IDEALISM	40.395	7.901	42.017	8.155	2.589*
REALISM	40.549	7.818	41.192	8.471	1.037
PRAGMATISM	43.147	11.456	49.322	6.732	8.436**
EXISTENTIALISM	43.332	11.119	50.227	7.658	9.594**

df = 437, $p < .01$, for a $t = 2.576$
$p < .001$, for a $t = 3.291$

TABLE NINE

ATTITUDE COMPARISON BETWEEN GROUP A (CONTROL, N=286)

AND GROUP B (EXPERIMENTAL, N=153)

ITEM	df	X^2	P
1. Do you intend to take another course in educational psychology? a. Yes b. No c. I'm not sure d. only if it's required	3	17.6056	.001 (16.27)
2. If I had to do it over again, I would not have taken this course. a. Yes b. No	1	4.8775	.05 (3.84)
3. Degree of interest in taking additional course work in educational psychology. a. very interested b. somewhat interested c. don't care one way or the other d. not too interested e. not at all interested	4	9.9002	.05 (9.49)
4. Have you enjoyed reading the textbook by Biehler? a. Yes b. No	1	4.6051	.05 (3.84)
5. Circle the words that tell how you feel about your recitation section: interesting, dull, fun, too hard, exciting, boring, relevant, too easy, important, not practical, worthless, well planned, disorganized, too many requirements, better than lecture.	14	30.5111	.01 (29.14)
6. Do you think tests have been fair? a. Yes b. No	1	5.9384	.02 (5.41)

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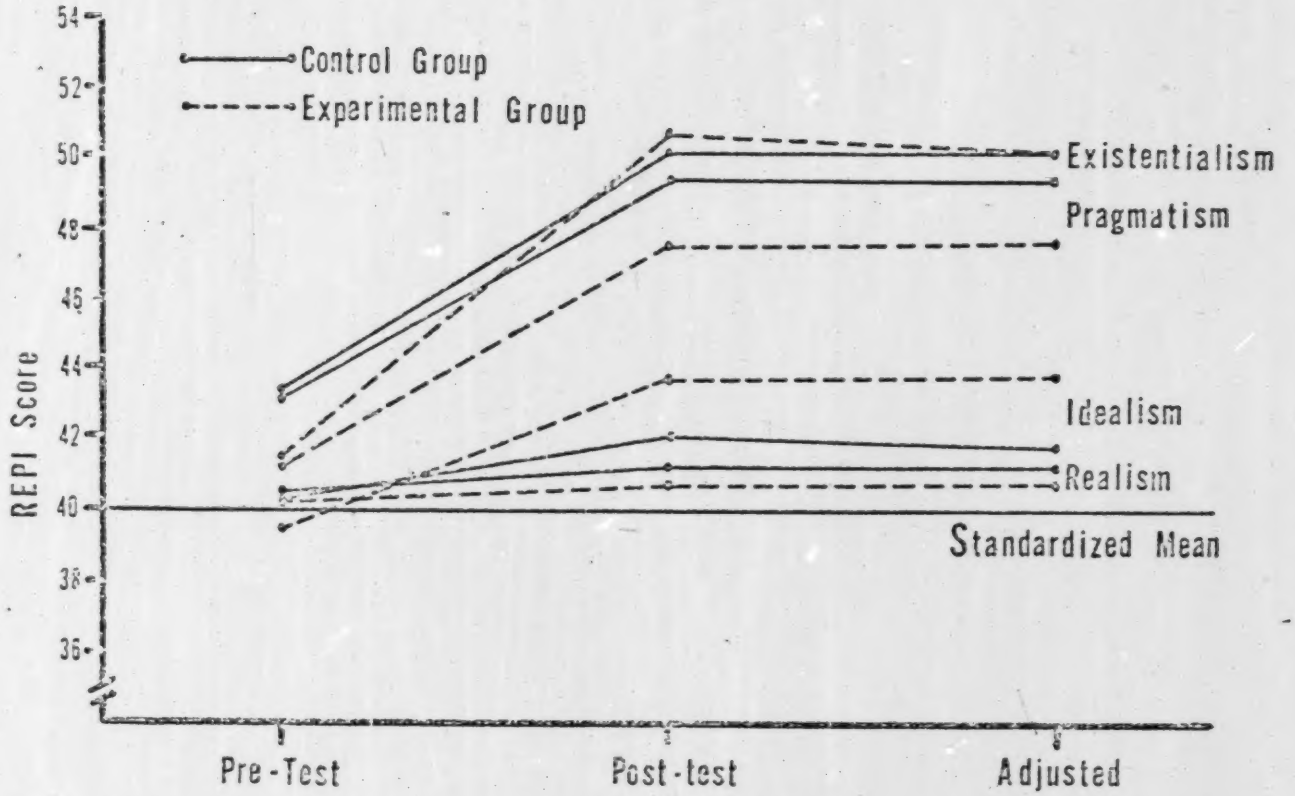

Fig.1. Pre-and Post-test comparisons on the REPI scales between the Control Group (N = 286) and the Experimental Group (N = 153).

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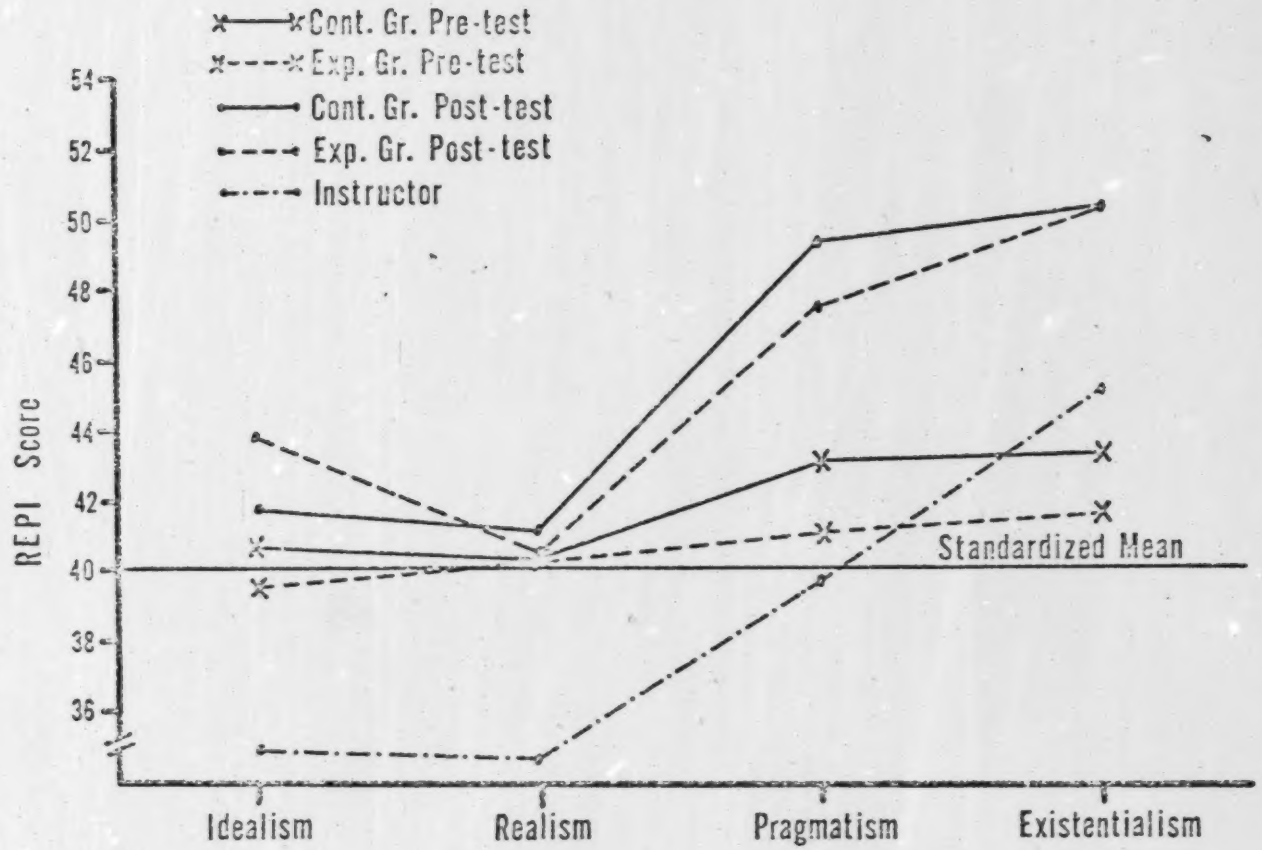

Fig. 2. Adjusted means on Pre- and Post-test Scores on the REPI scales for the class instructor, Control Group, and Experimental Group.